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WO 0001046  
NOV 1979

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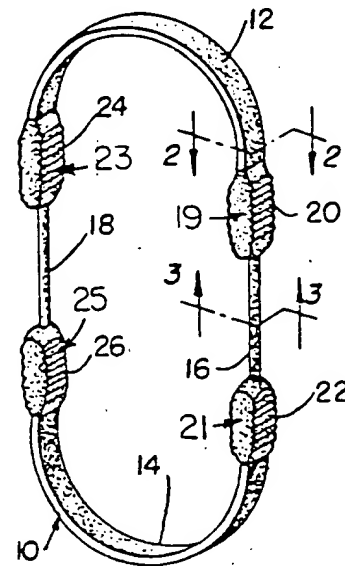
## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification: A43B 5/00; B65D 63/00	A1	(11) International Publication Number: WO 79/01046 (43) International Publication Date: 29 November 1979 (29.11.79)
(21) International Application Number: PCT/US79/00307 (22) International Filing Date: 9 May 1979 (09.05.79) (31) Priority Application Numbers: 904,472 006,198 (32) Priority Dates: 10 May 1978 (10.05.78) 24 January 1979 (24.01.79) (33) Priority Country: US (71) Applicant; and (72) Inventor: KNUDSEN, Phillip, E. [US/US]; Suite 827, 2301 Jefferson Davis Highway, Arlington, VA 22202 (US).	(74) Agents: WEILD, David, III, et al; Pennie & Edmonds, 330 Madison Avenue, New York, NY 10017 (US). (81) Designated States: AT, AT (European patent), CH, CH (European patent), DE, DE (European patent), FR (European patent). Published with: <i>International search report</i>	

(54) Title: PROTECTION FOR BOOTS OR THE LIKE

## (57) Abstract

A protector device (1) adapted for removable attachment to a ski boot (32) whereby a skier can walk on hard abrasive surfaces without damaging the bottom surface of the boot. The protector device (1) is in the form of a resilient member which is adapted to be received about opposite outer peripheral edges of the sole and along the bottom of the boot.



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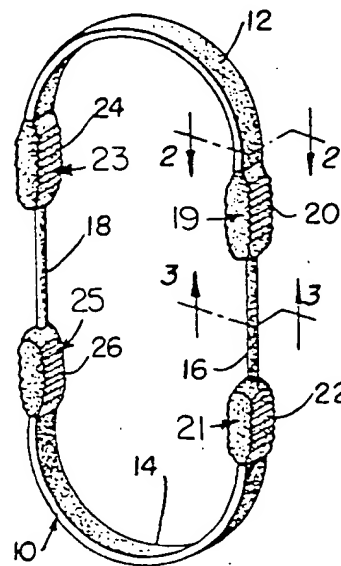
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Description

Protection For Boots Or The Like

5 Background Of The Invention

The present invention relates to boot protection devices, and more particularly to a sole protector arranged to be removably mounted onto a ski boot, thereby protecting the sole of the boot from damage caused by walking on hard  
10 abrasive surfaces, such as parking lots or the like.

Description Of The Prior Art

For the past several years virtually all alpine ski boots have included an outer shell made from relatively hard,  
15 thin plastic material which is designed to reduce the weight of the ski boot to a minimum. If these ski boots are worn when walking on abrasive surfaces, such as roadways, parking lots, or the like, the soles of the ski boots become scarred, rounded on the edges, and eventually worn through the outer  
20 shell to the footbed of the boot. This wear problem is compounded by friction resulting between the rough ski boot sole and the ski, thereby impeding the proper functioning of the binding while increasing the chances of injury by improperly functioning equipment. It is apparent that there  
25 is a need in the prior art to have a suitable means to protect the bottom of ski boots from being scarred or otherwise damaged while walking on hard abrasive surfaces. Although there have been prior art attempts to solve this problem, all of the prior protective devices have been too  
30 bulky to conveniently store when not in use, and they have been too heavy and too difficult to install on the sole of the boot.

It has now been found that by practice of the present invention there is provided a convenient protective device  
35 for the sole of a boot which overcomes numerous disadvantages of prior art devices, while providing a simple, commercially practical, highly convenient solution for pro-



1 protecting the sole of a rigid boot, such as a ski boot, from damage by abrasive surfaces.

Summary Of The Invention

5 Generally stated, the present invention provides a protector device for the sole of a boot. The protector device is removably attached to the sole surface of the boot and includes a resilient strap which is adapted to be mounted over the outer peripheral edge of the sole. Preferably, the resilient strap includes a ridge portion disposed under the forefoot and heel sections of the sole. The resilient strap may be configured with sufficient thickness along the body portion thereof providing that the thickness of the strap is sufficient to prevent the boot sole from contacting rough surfaces and narrow enough to enable the strap to be mounted over the outer peripheral edge of the sole, such as by twisting the resilient strap to form intermediate loops. A substantial portion of the resilient strap is thus maintained beneath the sole of the ski boot when the strap is in use.

20 It is an object of this invention to effectively protect the soles of boots from damage caused when the soles contact rough, abrasive surfaces.

It is another object of this invention to provide a ski protector device, especially for the soles of ski boots, which is commercially practical and which is adjustable to fit many boot sizes, in a simple convenient manner.

It is another object of the invention to provide a protector device that has very little weight and is easy to use.

Another object of the invention is to provide a protector device that can be easily stored while not in use.

It is another object of the invention to provide a protector device that is inexpensive to manufacture.

35 These and other objects and advantages of the present invention will become apparent with reference to the accompanying drawings wherein similar elements are identified by like



1 numerals throughout the several views.

Brief Description Of the Drawings

5 Figure 1 is a perspective view of the protector device of the present invention;

Figure 2 is a cross-sectional view of the device of Figure 1, taken along sectional lines 2-2 thereof;

Figure 3 is a cross-sectional view taken along line 3-3 of Figure 1;

10 Figure 4 is a side elevational view showing the protector device of the present invention mounted onto a ski boot;

Figure 5 is a bottom view of the ski boot of Figure 4, showing the protector device mounted onto a ski boot;

15 Figure 6 is a side elevational view showing the protector device mounted onto a ski boot when fastened to a ski; and

Figure 7 is a perspective view of an embodiment of the protector device of the present invention.

20

Description' of Preferred Embodiments

In the drawings, Figure 1 illustrates protector device 10 formed as an elongated multi-shaped loop or member having first loop end 12 and second loop end 14 with longitudinal surfaces 16 and 18 integrally connecting the loop ends. Longitudinal surface 16 includes a pair of segments 19 and 21 having textured surfaces 20 and 22, respectively thereon, whereas the longitudinal surface 18 includes a further pair of segments 23 and 25 having textured surfaces 24 and 26, respectively, thereon. It will be recognized that loop end portions 12 and 14 are of a uniform, rectangular, strap-shaped configuration. It will likewise be recognized that the intermediate portions of the longitudinal surfaces 16 and 18 are of a rod-shaped configuration, whereas the outer portions comprising the segments of the longitudinal surfaces 16 and 18 are of a rectangular configuration and of greater thickness. The

1 intermediate portions and the loop end portions comprise connecting portions.

Figure 2 illustrates, in cross-section, one of the segments and its textured surface in greater detail. In  
5 Figure 2, the thicker longitudinal surface 20 is illustrated with rib member 28 in relationship to loop end portion 12.

Figure 3 illustrates, in cross-sectional view taken along line 3-3 of Figure 1, the intermediate rod-shaped configuration of longitudinal surface 16 in relationship  
10 to the thicker textured surface 20 of segment 19. The rib member 28 provides an anti-skid surface.

Figure 4 illustrates a ski boot 32 generally depicted of the type formed of rigid plastic material with ski binding toe member 34 and ski binding heel member 36. The  
15 protector device 10 of Figure 1 may be attached by simply twisting the intermediate portions of longitudinal surfaces 16 and 18 while attaching the first loop end portion 12 to ski binding toe member 34 and the second loop end portion 14 to ski binding heel member 36.

20 Figure 5 illustrates in greater detail the protector device 10 attached about the sole portion of a boot 32. In Figure 5, the twisting engagement of the protector device 10 is more clearly illustrated by twist 38. One twist is sufficient to form a generally illustrated  
25 figure eight configuration for attachment to the sole portion of the ski boot.

Figure 6 illustrates the protector device 10 positioned on ski boot 32 when the boot is fastened to a ski 44 by means of ski binding toe member 40 and ski binding  
30 heel member 42.

Figure 7 illustrates a further embodiment of protector device 50 of the present invention where the thicker portions or segments of the loop 52, 54, 56 and 58 are tapered gradually to longitudinal surfaces 60 and 62 and  
35 likewise tapered gradually to loop end portions 64 and 66.

The protector device of the present invention may be formed by molding, extrusion and subsequent adhesion, or

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1 related techniques well known in the art. The material  
forming the protector device of the present invention is  
desirably an elastic material, such as plastic, rubber, or  
the like. It has been found that for convenience of wear,  
5 rubber formulated compositions are preferred for preparing  
the present protector device.

When the resilient protector device is not in use, it  
may be completely removed from the ski boot and stored in a  
coat pocket, or it may be left on the ski boot simply by  
10 releasing the strap at either the toe end or heel end to  
eliminate the twist therein and the entire strap is slipped  
over the boot sole and positioned immediately above the sole  
where it is held in place and out of the way. In this posi-  
tion, the protector device protects the sides of the boots  
15 from being damaged by the metal edges of the skis.

The present protector device may be conveniently pre-  
pared in one size and because of the elasticity thereof it  
may be secured to a variety of ski boot sizes. However, to  
accommodate all boot sizes, several different length pro-  
20 tector devices are necessary. The surface of the segments of  
the protector device is textured to provide traction or anti-  
skid protection while walking on slippery surfaces which are  
frequently encountered on roadways.

The invention and its attendant advantages will be  
25 understood from the foregoing description and it will be  
apparent that various changes may be made in the form, con-  
struction and arrangement of the parts of the invention with-  
out departing from the spirit and scope thereof or sacrificing  
its material advantages, the arrangement hereinbefore  
30 described being merely by way of illustration and not to be  
restricted to the specific form shown except as defined in  
the accompanying claims.

Claims

1. A protector device for protecting at least the bottom sole portion of a boot comprising in combination:
  - 5 a member formed of a resilient, stretchable material capable of being twisted to form a pair of loops adapted to be mounted over an outer peripheral edge of the sole of a boot within the regions of the heel and toe, respectively, said member including a plurality of segments of a dimension greater than the dimension of the connecting portions of said member and spaced apart therealong whereby when said member is twisted to form said loops and said member is mounted on said boot at least a pair of segments are disposed under the fore-foot and heel areas of said sole.
- 10 2. The protector device as recited in claim 1 wherein the segments have a textured, anti-skid surface.
- 20 3. The protector device as recited in claim 1 wherein at least the connecting portions mounted over said outer peripheral edge are of a rectangular strap-like configuration.
- 25 4. The protector device as recited in claim 1 wherein the segments are of a rectangular configuration.
5. The protector device as recited in claim 4 wherein said segments have a textured, anti-skid surface.
- 30 6. The protector device as recited in claim 1 wherein the connecting portions adapted to be twisted to form said loops are substantially round in cross-section.
- 35 7. The protector device as recited in claim 1 wherein the segments at least at the ends toward the loop end are tapered.



- 1 8. The protector device as recited in claim 1 wherein the  
segments at least at the ends toward the twist are  
tapered.

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FIG. 1.

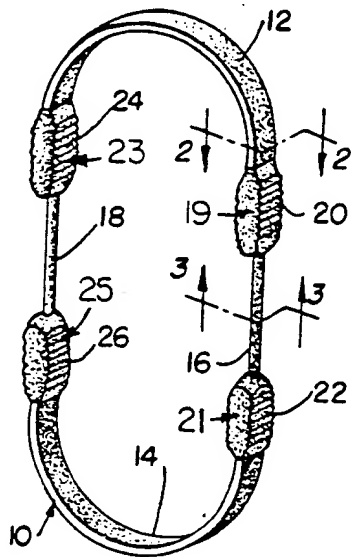


FIG. 2.

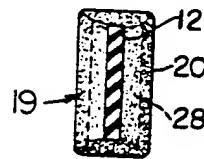


FIG. 3.

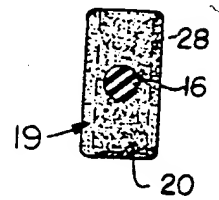


FIG. 4.

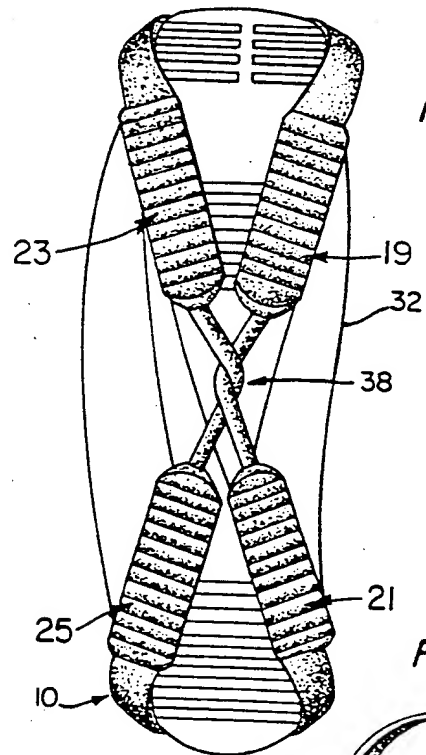
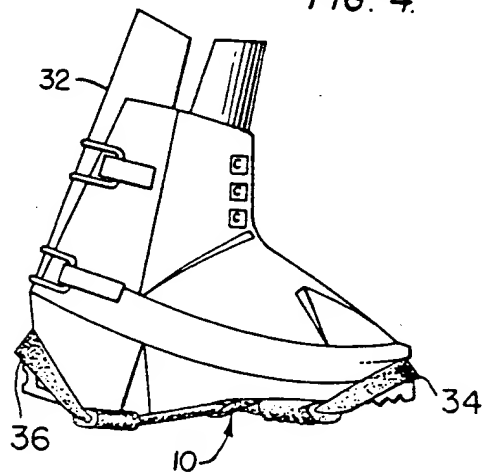


FIG. 5.

FIG. 6.

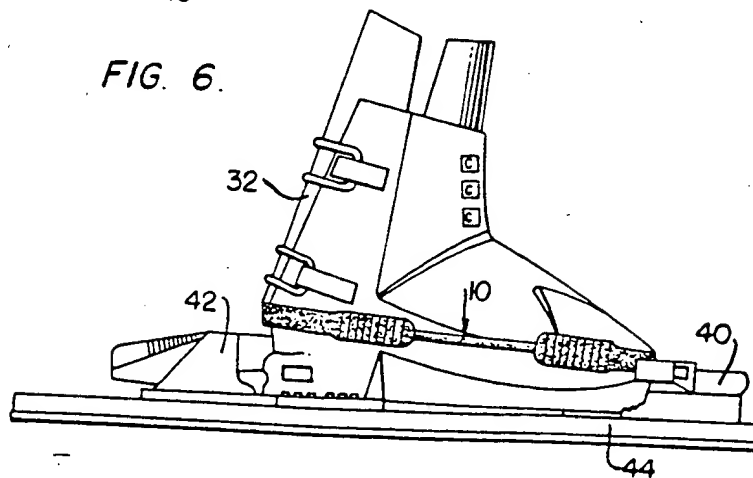
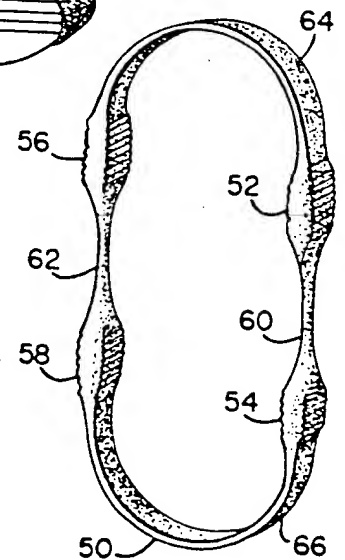
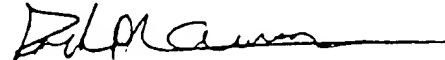


FIG. 7.



<b>I. CLASSIFICATION OF SUBJECT MATTER</b> (if several classification symbols apply, indicate all) <sup>1</sup>				
According to International Patent Classification (IPC) or to both National Classification and IPC				
Int. Cl. A 43B 5/00; B 65D 63/00				
U.S. Cl. 36/132; <u>24/17B</u>				
<b>II. FIELDS SEARCHED</b>				
Minimum Documentation Searched <sup>4</sup>				
Classification System	Classification Symbols			
U.S.	36/132, 136, 117, 7.6, 59R; 12/120.5; 2/337; 24/17B, 17AP.			
Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched <sup>5</sup>				
<b>III. DOCUMENTS CONSIDERED TO BE RELEVANT</b> <sup>14</sup>				
Category <sup>6</sup>	Citation of Document, <sup>16</sup> with indication, where appropriate, of the relevant passages <sup>17</sup>	Relevant to Claim No. <sup>18</sup>		
X	DE, A, 2,314,847, published 03 October 1974 .Contintal.	1-8		
A	FR, A, 911,213, published 02 July 1946, Malvezin.	1-8		
X	US, A, 743,641, published 10 November 1903 Hazard et al.	1-8		
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International Searching Authority <sup>1</sup>		Signature of Authorized Officer <sup>10</sup>		
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